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EXAMINER

PIERCE, JEREMY R

ART UNIT

PAPER NUMBER

1771

DATE MAILED: 06/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/843,919

Applicant(s)

NISHIBORI ET AL.

Examiner

Jeremy R. Pierce

Art Unit

1771

-- **Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --**
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 and 34-62 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-32 and 34-62 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Response to Amendment

1. Amendment A has been filed on April 1, 2003 as paper No. 6. Claims 1 and 3-16 have been amended. Claim 33 has been cancelled. New claim 62 has been added. Claims 1-32 and 34-62 are currently pending.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-32 and 34-62 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites, "A resin cushion article having a spring structure." Is the article in the structure of a spring? According to the specification, the article contains filaments that have a spring structure. But the article itself does not have the recited "spring structure."

Claim 2 recites the structure has "voids providing low and high densities." How can a void provide both high density and low density? A void would typically be thought of as an area of low density, so how does it provide high density?

Claims 9, 12, and 49-51 are indefinite because they depend from claim 3, which recites "said vinyl acetate resin or said ethylene vinyl acetate copolymer" as one

Art Unit: 1771

component. Claims 9 and 12 both recite "styrene butadiene styrene" as the component. It is unclear whether the styrene butadiene styrene is added further to the vinyl acetate resin or ethylene vinyl acetate or is a replacement of them.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-6, 13-32, 34-48, and 52-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al. (U.S. Patent No. 5,972,463) in view of Kargol et al. (U.S. Patent No. 5,492,662).

Martin et al. disclose open, nonwoven webs made from thermoplastic filaments (column 1, lines 8-17). The web may be made from helically shaped or coiled filaments (Figure 4) interengaged into a desired ordered or random pattern to a desired web weight (column 7, line 51 –column 8, line 2). The filaments are made from a mixture of polymers. Examples of the polymers include polyolefins, such as polyethylene and polypropylene, and ethylene vinyl acetate (column 17, lines 31-64). A blend of polyethylene and/or polypropylene with poly (vinyl acetate) is also disclosed. The substrate can be embossed, thus creating an increase in bulk density in the width direction at spaced intervals of length (Figure 24 and column 20, lines 35-62). Martin et al. fail to disclose the nonwoven to have a uniform thickness when made with varying

Art Unit: 1771

density. Kargol et al. disclose a cushion material made from polymeric fibers with varying zones of density (Abstract). It would have been obvious to one having ordinary skill in the art to use the method of providing varying density disclosed by Kargol et al. in the nonwoven of Martin et al. in order to make a more comfortable cushion. Although the mold of Kargol et al. displayed in the figures does not give a nonwoven with a uniform thickness, Kargol et al. disclose that the dimensions of the mold cavity may be altered and such alterations can easily be determined by one of skill in the art. It would have been obvious to one having ordinary skill in the art to form a nonwoven with a uniform thickness if a cushion pad with such a characteristic were desired in the intended use. With regard to claim 2, Martin et al. disclose voids to be present in the nonwoven web (column 6, lines 58-64), and the voids would provide areas of low density and the fibers would provide areas of high density. With regard to claims 3-6, Martin et al. disclose the ethylene-vinyl acetate can be used as the low melting component (b) and that polypropylene can be used as the higher melting component (a) (column 18, lines 31-36). However, Martin et al. do not disclose how much of the fiber is made of component (a) and how much is made of component (b). Martin et al. do teach that component (a) provides the structural role in the fibrous material, whereas component (b) provides an adhesive function to the web (column 23, lines 35-54). Since the material of Martin et al. is used as an abrasive article or cushioning material, it would likely be inherent for the fibers of the nonwoven to comprise 70 to 97% polyolefin for structure and 3 to 30% EVA for bonding. If not inherent, it would have been obvious to a person having ordinary skill in the art to create the nonwoven web of Martin et al.

Art Unit: 1771

with a higher ratio of structural material and lower level of bonding material in order to provide a rigid web material with a sufficient amount of bonding agent, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. With regard to claims 13-16, Martin et al. disclose the filaments to have a diameter of 0.5 to 25 mm (column 4, lines 52-61). With regard to claims 17-26, Martin et al. do not disclose the bulk density of the nonwoven web. Martin et al. do teach the bulk density or void volume can be varied (column 13, lines 55-63). Altering the density would be result effective variable that would affect the strength of the cushion. It would have been obvious to a person having ordinary skill in the art to make the nonwoven web have a density within the claimed ranges, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. With regard to claims 27 and 28, the web may be used as a cushioning web (column 7, line 1). With regard to claim 34-48, Martin et al. already show areas of high density and areas of low density by embossing (Figure 24). Adjusting the web to the claimed densities would also be a matter of optimizing an adjustable property. With regard to claims 52 and 53, Martin et al. disclose the web can be made from hollow filaments (column 5, lines 22-24). Therefore, a web made in this embodiment would have from 50 to 100% hollow filaments. With regard to claims 57-61, Martin et al. discloses using both hollow and solid filaments (column 5, line 23). It would have been obvious to one having ordinary skill in the art to provide hollow filaments for lower weight to the nonwoven web surrounded by solid filaments to provide structural integrity to the corresponding hollow filaments. With regard to claim 62, the process of making

limitation is only limiting on a product claim when it would substantially alter the product or creates a material different product.

6. Claims 1-6, 17-32, 34-48, and 57-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karami (U.S. Patent No. 4,027,672) in view of Hansen et al. (U.S. Patent No. 5,456,982).

Karami discloses an absorbent pad that has densified regions and a uniform thickness (column 1, lines 60-68). Karami does not disclose the fibers are made from the same materials as recited in claim 1. Hansen et al. disclose an absorbent core comprising thermobondable synthetic fibers (Abstract). The sheath component of the thermobondable fiber comprises a polyolefin resin and an ethylene vinyl acetate resin to make it hydrophilic (column 5, lines 9-19). The fibers are preferably crimped to give a wavy form (column 6, lines 10-14). It would have been obvious to one having ordinary skill in the art to include the fibers of Hansen et al. into the absorbent core of Karami in order to improve the strength of the core without impairing its absorbent capacity, as taught by Hansen et al. (column 2, lines 20-53). With regard to claims 3-6, Hansen et al. disclose the hydrophilic polymer may comprise 25-50% of the sheath (column 5, line 16), and that the sheath may comprise 10-90% of the fiber (column 5, lines 29-30). With regard to claims 17-26 and 34-48, Karami does not disclose a bulk density for the resin-molded article. Adjusting the density of the pad of Karami would be a result effective variable that would affect the pad's ability to absorb and transport liquid. It would have been obvious to one having ordinary skill in the art to make the pad of Karami with a bulk density in the claimed ranges, since it has been held that discovering

Art Unit: 1771

an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). With regard to claims 57-61, the hollow filaments are only an optional limitation of the independent claims. With regard to claim 62, the process of making limitation is only limiting on a product claim when it would substantially alter the product or creates a material different product.

7. Claims 7-12 and 49-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al. in view of Kargol et al. and further in view of Insley et al. (U.S. Patent No. 5,451,437).

Martin et al. do not disclose using styrene-butadiene-styrene polymer as a component in the nonwoven web. Insley et al. disclose filamentous styrene-butadiene-styrene is a useful elastic polymer in creating filaments (column 4, lines 30-44). It would have been obvious to one having ordinary skill in the art to use styrene-butadiene-styrene polymer in the nonwoven web of Martin et al. in order to provide elasticity to the web as taught by Insley et al., since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. With regard to claims 49-51, Martin et al. disclose a void volume up to 95% (column 12, line 53). But like the density of the web, Martin et al. disclose the void volume of the web may be adjusted accordingly (column 13, line 55). It would have been obvious to one having ordinary skill in the art to provide the claimed void volumes in the high and low-density areas by optimizing adjustable properties of the web.

Response to Arguments

8. Applicant's arguments filed in Paper No. 6 have been fully considered but they are not persuasive.

9. Applicant argues that the amended claims have eliminated references to a spring structure. However, claim 1 recites, "A resin cushion article having a spring structure." This is still indefinite because the spring structure limitation should be used to describe the filaments, and not the cushion article.

10. Applicant argues that Martin teaches a uniform bulk density and not a bulk density that is varied across its width at predetermined intervals. However, as shown in Figure 24 of Martin et al., different bulk densities can be seen at different intervals.

11. Applicant argues that Martin teach a completely different article for a completely different purpose. However, Martin teaches that the nonwoven of his invention can be a cushioning web (column 7, line 1).

Terminal Disclaimer

12. The terminal disclaimer filed on April 1, 2003 disclaiming the terminal portion of any patent granted on this application, which would extend beyond the expiration date of U.S. Patent No. 6,470,810 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Conclusion

Art Unit: 1771

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: U.S. Patent No. 6,063,461 to Hoyle et al.

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy R. Pierce whose telephone number is (703) 605-4243. The examiner can normally be reached on Monday-Thursday 7-4:30 and alternate Fridays 7-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (703) 308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Art Unit: 1771

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Jeremy R. Pierce
Examiner
Art Unit 1771

June 6, 2003



ELIZABETH M. COLE
PRIMARY EXAMINER